Recreational Mail Surveys, 1984 — Tidal Sportfishing Diary Program and Visitors Sportfishing Survey

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by

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RECREATIONAL MAIL SURVEYS, 1984 - TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

PREFACE

The Tidal Sportfishing Diary Program was initiated in 1979 to obtain estimates of the sport catch by B.C. residents fishing in B.C. tidal waters. The Visitors Sportfishing Survey was first conducted in 1982 to obtain estimates of sport catch and expenditures by visitors fishing in B.C. tidal waters. Previous reports cover survey development and annual results. This report serves as a continuation of this series and deals with the 1984/85 results.

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RECREATIONAL MAIL SURVEYS, 1984 - TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

ABSTRACT

Bijsterveld, L. and M. James. 1986. Recreational mail surveys, 1984 - Tidal Sportfishing Diary Program and Visitors Sportfishing Survey. Can. MS. Rep. Fish. Aquat. Sci. 1866: iv + 51 p.

Mail surveys collected 1984/85 licence year catch and effort data on recreational fishing in B.C. tidal waters. During 1,990,000 angler days, adult anglers caught and kept 1,108,000 salmon including 490,000 chinook and 565,000 coho. Most effort was from boats and directed towards salmon in general. Juvenile anglers caught and kept an additional 82,000 chinook and 99,000 coho during 350,000 angler days. Problems related to mail surveys are reviewed.

Keywords: sportfishing, tidal waters, logbook, mail survey, catch statistics

RÉSUMÉ

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Lors d'enquêtes par correspondance, on a recueilli des données sur les efforts et les prises pour la saison de pêche récréative 1984-1985 dans les eaux de marée en C.-B. Pendant 1 990 000 jours-pêcheurs, les pêcheurs à la ligne adultes ont capturé et gardé 1 108 000 saumons dont 490 000 saumons chinook et 565 000 saumons coho. La plupart des efforts ont été faits à partir de bateaux et visaient le saumon en général. Les jeunes pêcheurs à la ligne ont en plus capturé et gardé 78 000 saumons chinook et 98 000 saumons coho en 330 000 jours-pêcheurs. Des problèmes liés aux enquêtes par correspondance sont examinés.

Mots clés: pêche sportive, eaux de marée, journal de bord, enquête par correspondance, statistiques sur les prises.

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RECREATIONAL MAIL SURVEYS, 1984 - TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

INTRODUCTION

The Tidal Sportfishing Diary Program is a mail survey of resident B.C. tidal water anglers. The Diary Program was introduced in 1979 as a method of estimating recreational catch and effort. It was necessary to survey large numbers of B.C. adults in order to contact anglers in the absence of a licencing program. The B.C. Tidal Waters Sport Fishing Licence, introduced during 1981, identified anglers and provided a sample base for the program beginning in 1982. The licences also provide a sample base for anglers visiting B.C. The Visitors Sportfishing Survey was first conducted in 1982 to obtain estimates of sport catch and expenditures by anglers visiting B.C. during the previcus year. The 1981 and 1982 licence years corresponded to calendar years (January 1 to December 31). The 1983 licence year was a transition from a calendar year to a fiscal year (April 1 to March 31) and extended from January 1, 1983 to March 31, 1984. The Tidal Waters Licence year was changed to correspond to the B.C. Angling Licence year resulting in a 15 month licence for 1983/84. The 1983 Diary program and Visitors Survey covered the entire 15 month period although only the 1983 calendar year statistics were published. The 1984/85 population and catch and effort statistics correspond to the 1984/85 licence year (April 1, 1984 - March 31, 1985).

METHODOLOGY

A systematic sample consisting of 7% of the 1983/84 B.C. Tidal Waters Sport Fishing Licences was drawn. The licence information was keypunched directly from the licence stubs to produce an address list. The B.C. addresses were used for the Tidal Diary program while the remainder were used for the Visitors Sportfishing Survey.

Tidal Sportfishing Diary Program

Approximately 14,000 postcard questionnaires were sent early in 1984 to sampled anglers from B.C. Reminders were sent to questionnaire non-respondents four weeks after the initial sendout. Questionnaire recipients were asked about their fishing activity in 1983 and whether they were willing to keep daily fishing records during the 1984/85 licence year. A systematic sample of questionnaire nonrespondents was surveyed by telephone to obtain the questionnaire information. The questionnaire and telephone survey data were used to adjust the potentially greater catch and effort of diary volunteers.

Questionnaire respondents volunteering to keep records were supplied with diary booklets covering two 6-month periods. Diarists were provided with different forms for recording their days spent fishing for finfish and shellfish. For each day's fishing for finfish, volunteers were asked to record the following information: type of fishing (boat, shore, pier, bar, diving), party size, number of lines, time spent fishing, target species and statistical area. The catch of the following was also requested: chinook (under 18", 18" to 26", over 26"), coho (under 12", 12" and over), pink salmon, other salmon, lingcod, Pacific cod, rockfish, halibut, trout, flatfish and other fish. Diarists were asked to record the number caught and the number kept by the entire party, for each species. The following information was requested for each day's fishing for shellfish: party size, statistical area, fishing method and the catch of crab, shrimp and prawns,

clams and mussels, oysters and other shellfish. Diarists were asked to record the number of traps used for crab fishing and the soak time of the traps.

Diary volunteers were provided with B.C. Tidal Waters Sportfishing Guides. The Guide contains sportfishing regulations and aids fish identification.

Visitors Sportfishing Survey

Approximately 2,500 questionnaires were sent to visiting North American anglers (excluding B.C.) selected as part of the 7% sample of 1983/84 Tidal Waters Sport Fishing Licences. Reminders were sent to questionnaire nonrespondents four weeks after the initial sendout. Questionnaire recipients were asked about their fishing activity and expenditures in B.C. during the 1984/85 licence year.

RESULTS

Returns

The number of questionnaires sent out for the 1984/85 Diary Program is provided in Table 1. The questionnaire return rate is fairly consistent with other years. Questionnaire respondents were considered to be active anglers if they indicated fishing in 1983. The proportion of anglers volunteering to keep diaries was similar to that obtained in 1983 as was the proportion of active diarists.

Approximately 2,500 questionnaires were sent out for the 1984/85 Visitors Survey. The return rate for the Visitors Survey was 71%. Only 2% of the respondents did not fish in 1984/85.

Resident Sportfishing Population

The estimated number of active B.C. resident adult anglers in 1984/85 is provided in Table 2. The population is estimated from sportfishing licences and consists of active adult B.C. resident tidal water anglers (aged 16 and over). The population of licence holders is multiplied by .85 to estimate the number of active anglers because only 85% of licence holders actually fish.

Characteristics of the population of licence holders can be estimated from the sample of licence holders selected to receive questionnaires. Males account for 80% of the population of licence holders while females account for only 20% (Figure 1). The population of B.C. adults, by comparison, is composed of almost equal numbers of males and females (Statistics Canada 1984).

The age composition of the B.C. adult population is presented in Figure 2. The proportion of individuals between 26 and 64 years of age is

TABLE 1

TIDAL SPORTFISHING DIARY PROGRAM
RETURNS

	1979	1980	1981	1982	1983	1984/85
Questionnaires						
Number Sent	9,978	10,176	1,940	13,747	9,912	13,987
Possible Contacts[1]	NA	8,239	1,929	12,793	9,278	13,097
Number Returns	4,761 (48%)	6,184 (75%)	1,268 (66%)	8,575 (67%)	6,140 (66%)	9,151 (70%)
Number Active Anglers	1,307 (28%)	1,843 (30%)	1,268 (100%)	7,677 (90%)	5,555 (90%)	8,117 (89%)
Diaries						
Number Diary Volunteers	595 (46%)	1,369 (75%)	922 (73%)	5,217 (68%)	3,546 (64%)	4,912 (61%)
Number Active Diarists[2]	137 (23%)	321 (23%)	464 (50%)	2,094 (40%)	1,292 (36%)	1,359 (28%)

1. Possible contacts = number sent - undeliverable questionnaires.
2. Diarists fishing at least one day during program year.

TABLE 2

POPULATION OF ACTIVE B.C. RESIDENT TIDAL WATER ANGLERS

Year	Number of Anglers
1979	188,300[1]
1980	211,900[1]
1981	215,900[2]
1982	189,200[2]
1983/84	190,500[2]
1984/85	191,100[2]

1. Aged 18 and over.
2. Aged 16 and over.

higher among licenced anglers than among B.C. adults in general. More young adults and seniors are present in the total population of adults.

The distribution of B.C. residents and licenced anglers by area of residence is presented in Figure 3. Over 75% of licenced anglers are from Vancouver Island and the Greater Vancouver area. These areas account for only 60% of the total population of B.C. (Statistics Canada 1985). The proportion of licenced anglers is higher than the proportion of the population in coastal areas, with the exception of Greater Vancouver.

Population of Visiting Anglers

An estimated 83,000 visiting anglers fished in B.C. tidal waters in 1984/85. The population consisted of 25,700 Canadians, 51,600 U.S. visitors and 300 visitors from other countries. The population of visiting anglers is not adjusted for activity (participation) because survey results indicate that only 2% of visiting licence holders do not use their licences. The sex composition of the population of visiting anglers is similar to the composition of B.C. resident anglers. Males account for 79% of the visiting population and females account for 21%.

The age composition of the population of visiting anglers is presented in Figure 2. The proportion of individuals between the ages of age 45 and 64 is higher among visiting anglers than among B.C. resident anglers.

The proportion of visiting anglers from various areas in Canada and the U.S. is presented in Table 3. Over half of the visiting anglers originated from areas adjacent to B.C. (Alberta and Washington). Americans accounted for 68% of the visiting anglers while Canadians accounted for 31.6%. The remaining .4% of the visiting anglers originated from outside North America.

FIGURE 1

SEX COMPOSITION OF B.C. ADULTS, ANGLERS AND VISITING ANGLERS - 1984/85

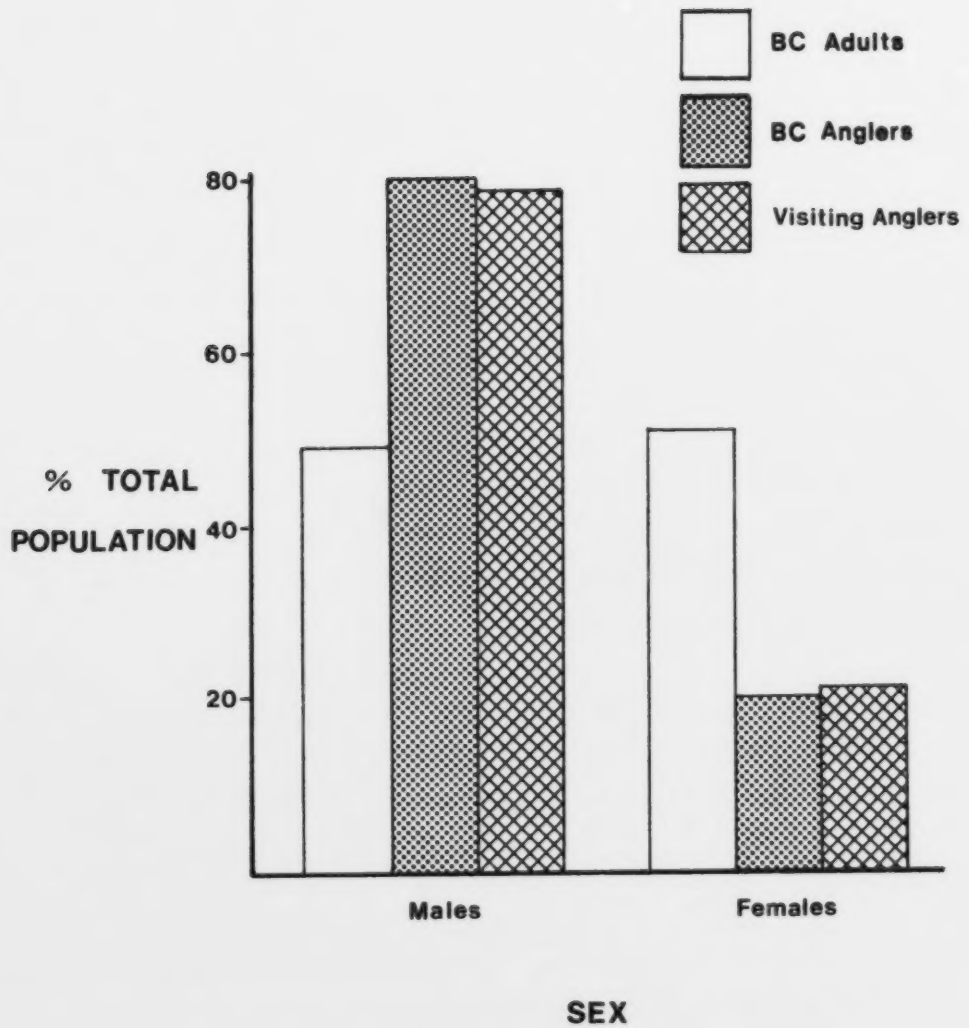


FIGURE 2

AGE COMPOSITION OF B.C. ADULTS, ANGLERS AND VISITING ANGLERS - 1984/85

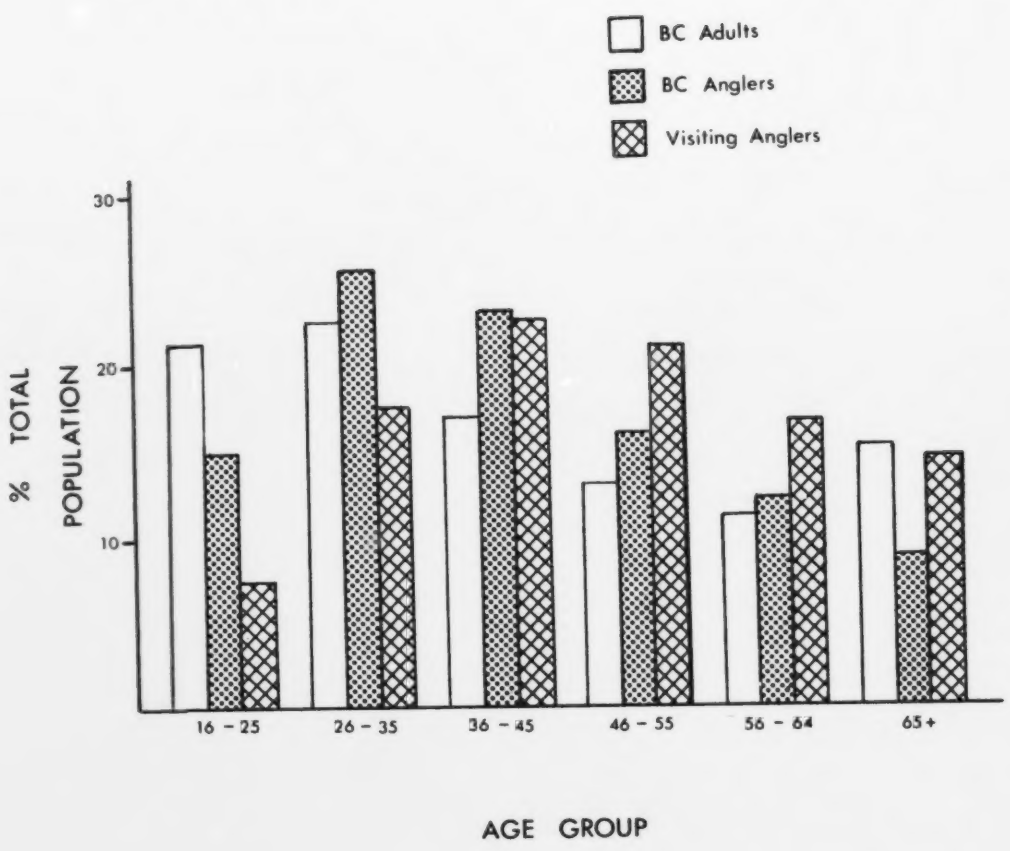


FIGURE 3

DISTRIBUTION OF B.C. RESIDENTS AND LICENCED ANGLERS
BY RESIDENCE AREA - 1984/85

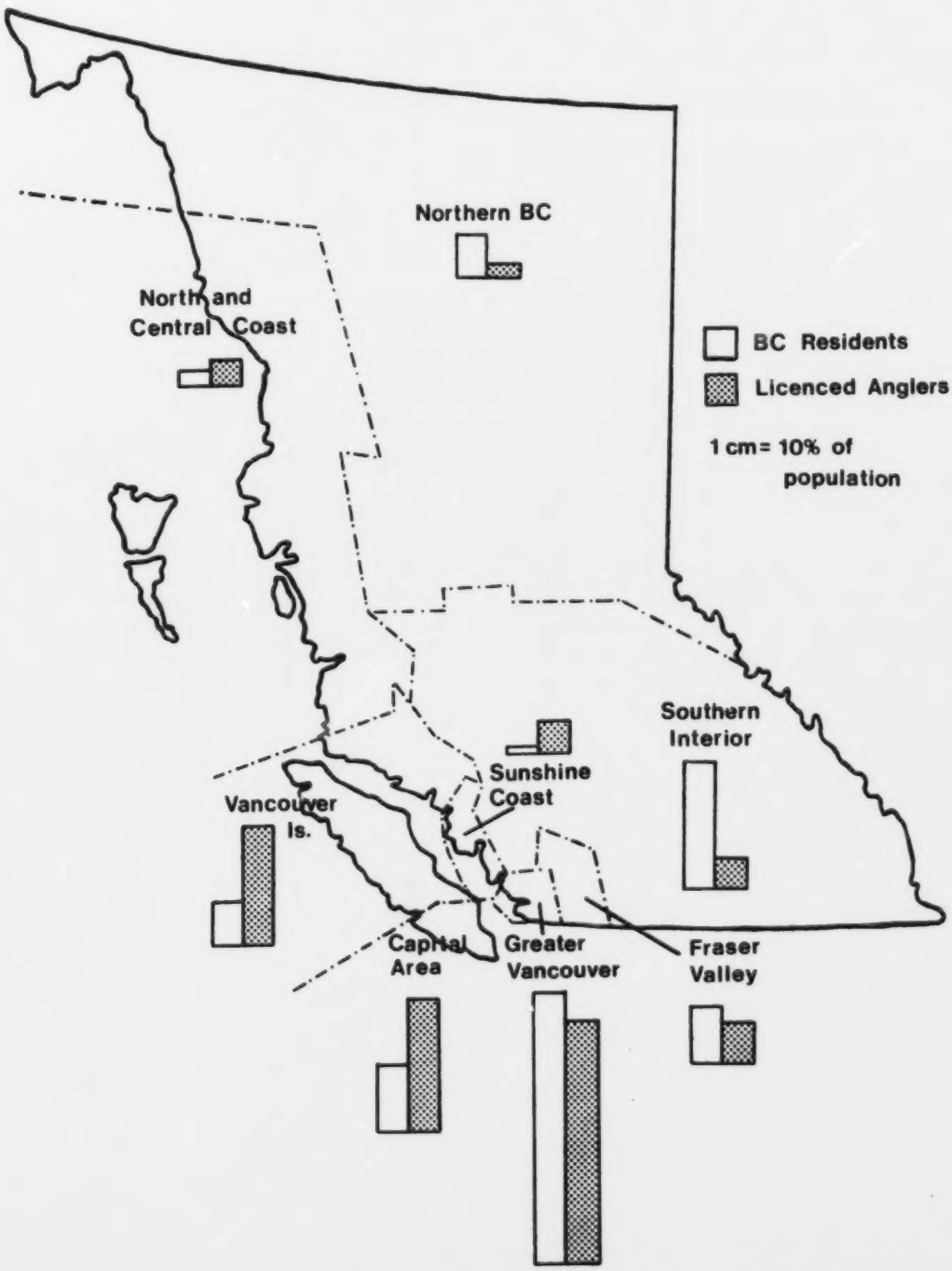


TABLE 3

RESIDENCE OF VISITING ANGLERS - 1984/85

CANADA

Province	Percentage of Total Visiting Anglers
Alberta	21.5
Ontario	5.2
Saskatchewan	2.2
Other	2.7
Total Canada	31.6

UNITED STATES

State	Percentage of Total Visiting Anglers
Washington	35.6
California	12.5
Oregon	5.8
Other	14.1
Total United States	68.0

Catch

British Columbia resident adult anglers caught and retained 856,000 salmon during the 1984/85 licence year (Table 4), (Figure 4). The catch consisted of 400,000 chinook, 425,000 coho, 23,000 pink salmon and 8,000 salmon of other species. The chinook catch increased 40% from the 1983/84 licence year while the coho catch was similar to 1983/84. The catch of other salmon decreased over 70%. This decrease can be attributed to the low availability of Fraser river pink salmon during 'even years' such as 1984 (Neave 1962).

Visiting anglers caught an additional 252,000 salmon, consisting of 90,000 chinook, 139,000 coho and 23,000 salmon of other species (Table 5). The combined catch by B.C. resident and visiting anglers was 490,000 chinook, 565,000 coho and 54,000 salmon of other species, resulting in a total catch of 1,108,000 salmon in 1984/85 (Table 6).

The South Coast and Fraser region was the major contributor to the salmon catch in 1984/85 (Table 7). This region accounted for 91% of the chinook, 93% of the coho and 92% of the total salmon caught and kept by B.C. resident anglers in 1984/85. This region contributed a smaller proportion (81%) of the total salmon catch by visiting anglers. The Campbell River area (statistical area 13) contributed 20% of the total salmon, making this the leading salmon area in 1984/85.

Over half of the salmon were taken during the summer months (June, July and August) in 1984/85 (Table 8). The total salmon and coho catches peaked in July while the chinook catch peaked a month earlier (Figure 5).

British Columbia anglers caught and retained 198,000 lingcod, 224,000 rockfish, and 9,000 halibut in 1984/85 (Table 7). Visiting anglers contributed an additional 27,000 lingcod, 29,000 rockfish and 1,400 halibut (Table 5). The catches of lingcod and rockfish by B.C. resident anglers

TABLE 4

TIDAL SPORTFISHING DIARY PROGRAM
ANNUAL CATCH[1] AND EFFORT ESTIMATES ('000s)

	1979[2]	1980	1981	1982	1983	1984/85
Angler Days	419.7	850.7	1,520.9	1,238.9	1,521.0	1,471.2
Chinook	166.2	391.4	192.3	196.4	289.2	399.9
Coho	208.7	362.0	308.0	439.0	438.4	425.5
Other Salmon	36.2	45.1	119.5	46.7	114.8	30.9
Total Salmon	411.1	798.5	592.4	682.1	842.4	856.3
Lingcod	27.0	133.4	133.5	160.9	123.5	197.9
Rockfish	206.8	253.7	278.0	321.4	209.4	223.9
Crab	40.4	209.8	210.7	140.1	167.4	132.9

1. Catch is reported in number of fish kept.

2. Diary program was initiated in the middle of 1979. Catches are for July to December.

FIGURE 4

TIDAL SPORTFISHING DIARY PROGRAM
ANNUAL SALMON CATCH ESTIMATES

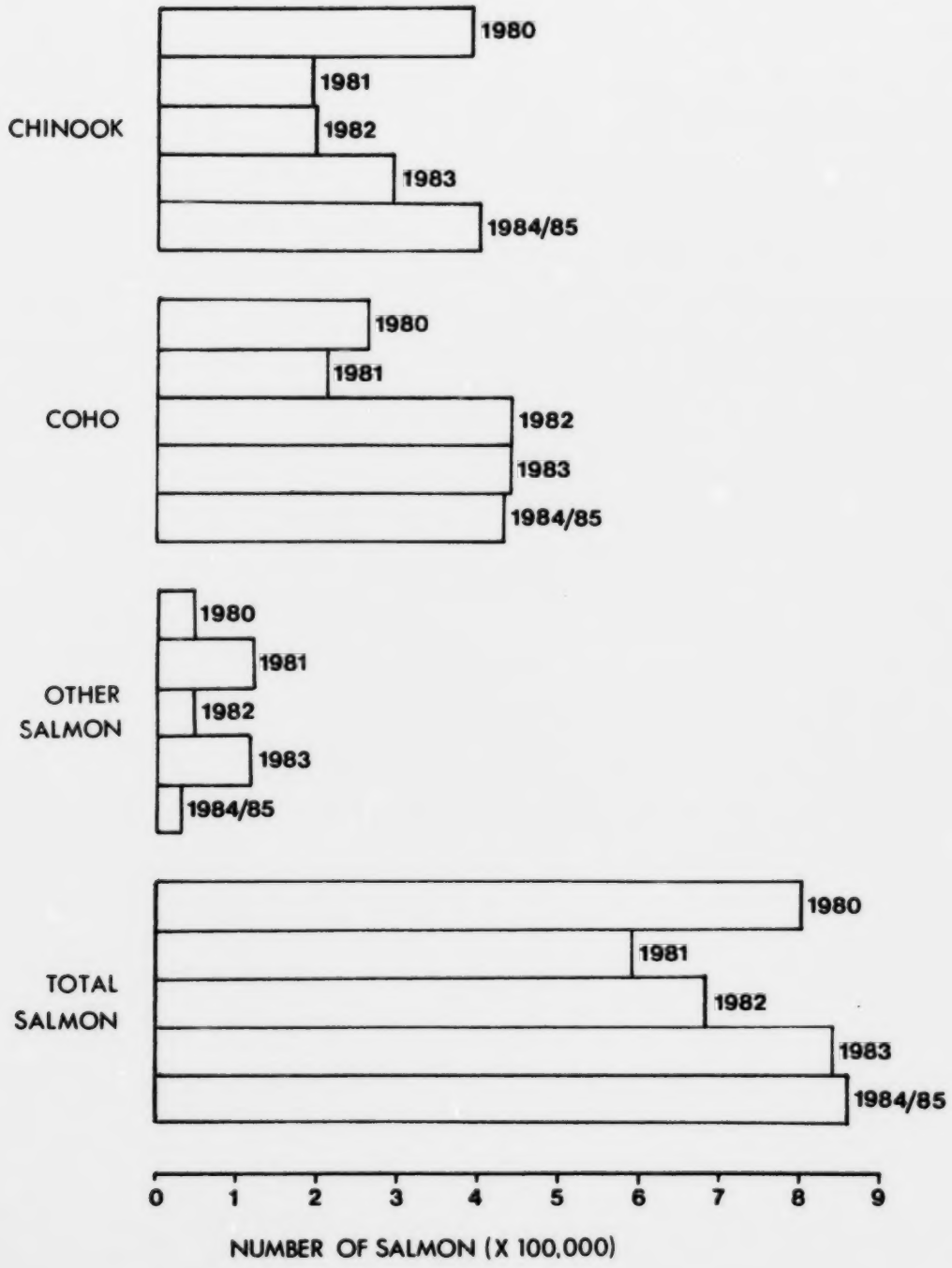


TABLE 5

1984/85 VISITORS SPORTFISHING SURVEY
CATCH[1] AND EFFORT BY VISITING ANGLERS BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days	41.8	415.4	61.1	518.3
Chinook	7.6	68.0	14.3	89.9
Coho	11.9	118.9	8.6	139.4
Other Salmon	2.7	18.2	1.7	22.6
Total Salmon	22.2	205.1	24.6	251.9
Lingcod	1.9	22.0	3.1	27.0
Rockfish	1.3	25.1	2.6	29.0
Pacific Cod	.4	7.8	.9	9.1
Halibut	.2	.5	.6	1.4

1. Catch is reported as number of fish kept.
2. Department of Fisheries statistical areas.

TABLE 6

1984/85 B.C. TIDAL WATER SPORT CATCH AND EFFORT ('000s)

	B.C. Resident Anglers[1]	Visiting Anglers[2]	Total
Angler Days	1,471.2	518.3	1,989.5
Chinook	399.9	89.9	489.8
Coho	425.5	139.4	564.9
Other Salmon	30.9	22.6	53.5
Total Salmon	856.3	251.9	1,108.2
Lingcod	197.9	27.0	224.9
Rockfish	223.9	29.0	252.9
Pacific Cod	63.1	9.1	72.2
Halibut	8.8	1.4	10.2
Crab	132.9	31.7	164.6

1. Tidal Sportfishing Diary Program.
2. Visitors Sportfishing Survey.

TABLE 7

1984/85 TIDAL SPORTFISHING DIARY PROGRAM
B.C. ADULT RESIDENT CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days	56.9	1,291.3	123.0	1,471.2
Chinook	7.1	362.5	30.3	399.9
Coho	13.7	397.4	14.4	425.5
Pink Salmon	3.0	19.0	.7	22.7
Other Salmon	.7	5.9	1.6	8.2
Total Salmon	24.5	784.8	47.0	856.3
Lingcod	4.3	181.3	12.3	197.9
Rockfish	8.7	197.9	17.3	223.9
Pacific Cod	4.6	55.3	3.2	63.1
Halibut	6.8	1.9	0.1	8.8
Herring	16.2	142.8	1.1	160.1
Crab	25.3	85.9	21.7	132.9

1. Catch is reported as number of fish kept.
2. Department of Fisheries statistical areas.

TABLE 8

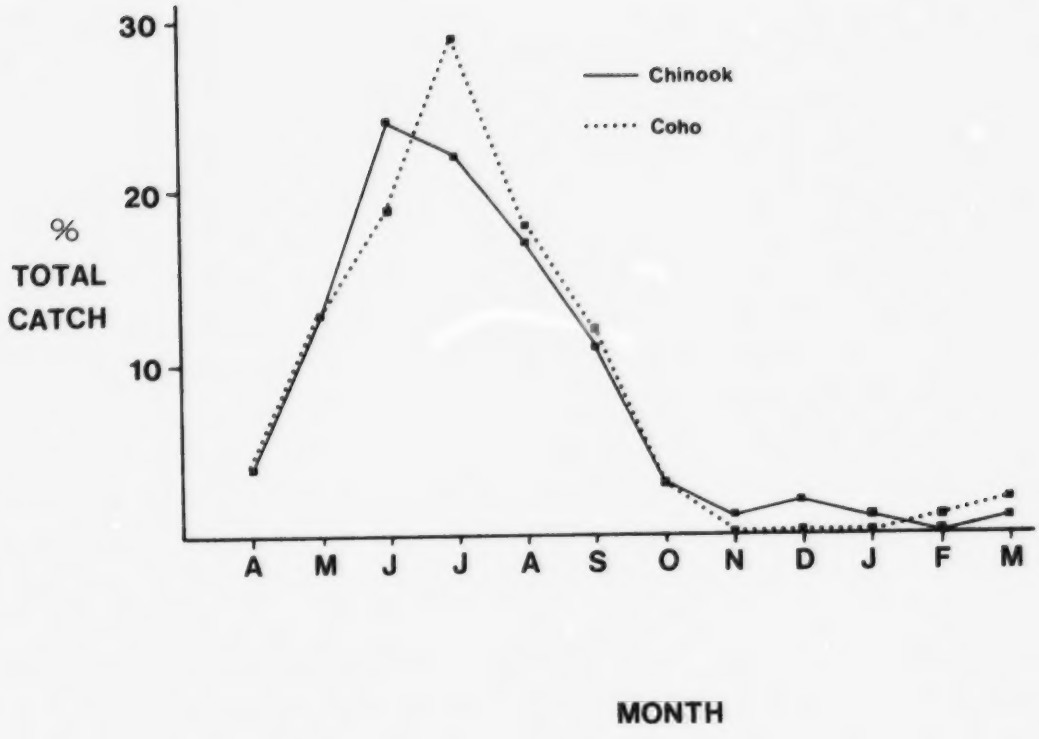
1984/85 B.C. TIDAL WATER SPORT SALMON CATCH[1] ('000's) BY MONTH

Month	Chinook	Coho	Other Salmon	Total Salmon
1984-April	18.4	18.3	1.3	38.0
May	59.4	66.1	4.0	129.5
June	116.5	120.1	7.9	244.5
July	113.1	168.2	18.1	299.4
August	92.9	116.3	15.6	224.8
September	52.1	59.0	4.9	116.0
October	11.3	13.5	.6	25.4
November	4.7	.8	.6	6.1
December	7.9	.3	0	8.2
1985-January	5.8	.9	0	6.7
February	1.9	2.5	0	4.4
March	4.6	7.4	0	12.0
Total	488.6	573.4	53.0	1,115.0

1. Catch is reported as numbers of fish kept.

FIGURE 5

1984/85 B.C. TIDAL WATER SPORT SALMON CATCH
PERCENT BY MONTH



increased 60% and 10%, respectively, from the 1983/84 licence year. The South Coast and Fraser region accounted for over 85% of the lingcod, rockfish and cod. Most (75%) of the halibut were taken from the North and Central Coast region. More than half of the catch of non-salmon species occurred from June through September.

The 1984/85 shellfish catch by licenced B.C. resident anglers is presented in Table 9. The 1984/85 shellfish catch by licenced visiting anglers is presented in Table 10. Survey results from Bourne and Carmichael (1984) indicate that only half of the individuals harvesting shellfish recreationally possess tidal water licences (licences are only required for sport harvest of finfish). Therefore the catches presented in Tables 9 and 10 may represent only half of the recreational shellfish harvest in B.C. The South Coast and Fraser region was the major contributor to the shellfish catch with the exception of abalone. The West Coast of Vancouver Island region contributed 45% of the abalone.

Effort

British Columbia resident anglers fished an estimated 1.5 million days in 1984/85. The total effort consisted of 1.4 million days fishing for finfish and 157,000 days fishing for shellfish. These separate estimates include 67,000 combined days (fishing for both finfish and shellfish). Visiting anglers fished an estimated 518,000 days in B.C. tidal waters in the 1984/85 licence year, bringing the total tidal water estimate of effort to 2 million days during the 1984/85 licence year.

More than 90% of the finfish effort by B.C. resident anglers occurred from boats. The percentage of effort from boats was much lower around the Fraser River (area 29) due to a closure to salmon sport fishing at the mouth of the Fraser River (Department of Fisheries and Oceans 1984). Fishing from the shore and fishing bars accounted for almost one third (30%) of the effort in this area in 1984/85.

TABLE 9

1984/85 TIDAL SPORTFISHING DIARY PROGRAM
B.C. ADULT RESIDENT SHELLFISH CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days (Shellfish)	14.1	122.4	20.2	156.7
Crab	25.3	85.9	21.7	132.9
Shrimp, Prawns	1.3	7.9	.8	10.0
Clams	9.9	645.6	28.5	684.0
Mussels	.4	34.1	1.7	36.2
Abalone	.6	6.3	1.5	8.4
Oysters	.3	273.6	13.9	287.8

1. Catch is reported as number of shellfish ('000's) with the exception of shrimp and prawns. These are reported in kilograms ('000's).

2. Department of Fisheries statistical areas.

TABLE 10

1984/85 VISITOR SPORTFISHING SURVEY
SHELLFISH CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days (Total)	41.8	415.4	61.1	518.3
Crab	4.6	24.4	2.7	31.7
Shrimp, Prawns	.3	19.1	.4	19.8
Clams	5.3	35.0	.4	40.7
Mussels	0	.2	0	0.2
Abalone	0	.6	.2	.8
Oysters	0	20.6	.6	21.2

1. Catch is reported as number of shellfish ('000's).

2. Department of Fisheries statistical areas.

Most of the total finfish effort (85%) of B.C. anglers was directed towards salmon in general. The proportion of effort directed towards chinook salmon was highest during December and January.

Over half of the total effort occurs during the summer months (July through September). Most of the B.C. resident angler effort (88%) occurs in the South Coast and Fraser region. Anglers from many areas of B.C. come to this region to fish, as indicated in Table 11. Generally, the majority of coastal residents fish close to their residence (Table 12).

Catch Per Unit Effort (CPUE)

The average catch per angler-day for B.C. resident anglers during 1984/85 was 0.27 chinook, 0.29 coho and 0.58 for all salmon combined (Table 13). The catch rate of chinook increased 40% from 1983, while the catch rate of coho remained the same. The average catch per angler day for visiting anglers was 0.17 chinook, 0.27 coho and 0.49 for all salmon combined. The catch rate of chinook by visiting anglers increased 30% while the catch rate of chinook increased over 15%.

The average CPUE of sublegal salmon by B.C. resident anglers in 1984/85 was 0.25 chinook and 0.15 coho (Table 14). The sublegal catch rates were highest from September through November (Figure 6) and exceeded the catch rates of legal chinook and coho during most of this time.

Catch and Effort by Juvenile Anglers

The population of anglers aged 15 and under cannot be estimated directly from licence sales because these anglers are not required to purchase B.C. Tidal Waters Sport Fishing Licences. An estimate can be obtained from questionnaire data. The number of active B.C. resident juvenile anglers is estimated to be 56,000, and the number of visiting juvenile anglers is estimated to be 26,000 during 1984/85.

TABLE 11

1984 TIDAL SPORTFISHING DIARY PROGRAM

FISCAL: 84/85: ANGLER COMPOSITION (BY RESIDENCE AREA) IN EACH STATISTICAL AREA (PERCENTAGE ANGLER DAYS)

RESIDENCE AREAS*	STATISTICAL AREAS																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	89	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	4	57	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	5	2	0	26	50	31	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	13	76	44	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	3	0	0	0	0	0	0	0	25	0	6	51	0	1	0	1	0	0	1	0	0	0	0	6	44	0	0	0
14	0	0	0	1	0	4	0	0	0	13	0	10	7	58	3	1	2	0	1	0	0	0	7	8	10	0	7	0	0
15	0	0	0	0	0	0	0	0	0	0	0	1	1	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	2	1	1	19	46	1	0	0	0	0	0	0	0	2	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	19	5	2	8	3	1	51	2	0	1	0	0	7	6	4	31	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	4	0	0	5	0	12	29	1	2	0	8	1	0	0	0	4	0	1
19	2	17	0	1	0	0	0	0	71	0	5	5	6	6	3	1	5	31	95	77	25	0	13	19	11	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	16	0	0	1	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92	39	5	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	3	3	4	18	7	2	2	0	0	0	0	1	13	1	19	11	37	27
29	0	7	17	0	50	2	0	52	19	50	0	15	19	16	28	40	23	29	2	3	75	0	24	7	6	6	7	62	70
South Int	0	0	0	10	0	18	0	0	0	0	0	6	9	4	5	3	3	7	1	0	0	0	7	0	1	0	0	0	2
North Int	0	5	58	2	0	45	100	14	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0

*Residence Areas 1 to 29 are Fisheries Statistical Areas. Interior Areas are outside of Statistical Area boundaries

TABLE 12

1984 TIDAL SPORTFISHING DIARY PROGRAM

FISCAL: 84/85: DISPERSION OF ANGLERS FROM EACH RESIDENCE AREA TO STATISTICAL AREAS FOR FISHING (PERCENTAGE ANGLER DAYS)

RESIDENCE AREAS*	STATISTICAL AREAS																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	83	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	3	94	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
3	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	3	3	0	43	2	43	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	5	89	3	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0
13	0	0	0	0	0	0	0	0	0	0	0	4	90	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	4	7	77	1	1	2	0	2	0	0	0	4	0	1	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	15	19	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	1	1	1	5	88	2	0	0	0	0	0	0	0	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0	0	0	2	2	12	1	1	74	1	0	0	0	0	5	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	4	1	1	2	0	38	46	2	2	0	0	2	0	0	0	0	0	1
19	0	1	0	0	0	0	0	0	1	0	0	1	3	4	0	0	3	9	58	14	0	0	4	1	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	12	8	1	52	0	0	8	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	1	9	1	4	1	0	0	0	0	7	76	1	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	0	3	0	0	0	0	0	2	0	85	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	0	0
28	0	0	0	0	0	0	0	0	0	0	0	2	5	8	5	13	4	1	0	0	0	0	1	1	0	0	0	32	28
29	0	0	0	0	0	0	0	0	0	0	0	2	8	8	2	19	11	7	1	0	0	0	6	0	0	0	0	14	19
South Int	0	0	0	2	0	4	0	0	0	0	0	6	25	13	2	11	9	10	3	0	0	0	11	0	0	0	0	0	3
North Int	0	7	7	3	0	57	1	4	2	0	0	1	7	0	0	6	0	2	0	0	0	0	0	2	0	0	0	2	1

*Residence Areas 1 to 29 are Fisheries Statistical Areas. Interior Areas are outside of Statistical Area boundaries

TABLE 13

SALMON CATCH PER UNIT EFFORT

	Chinook	Coho	Total Salmon
1984/85			
B.C. Resident Anglers	0.27	0.29	0.58
Visiting Anglers	0.17	0.27	0.49
All Anglers	0.25	0.28	0.56
1983			
B.C. Resident Anglers	0.19	0.29	0.55
Visiting Anglers	0.13	0.23	0.45
All Anglers	0.17	0.28	0.56

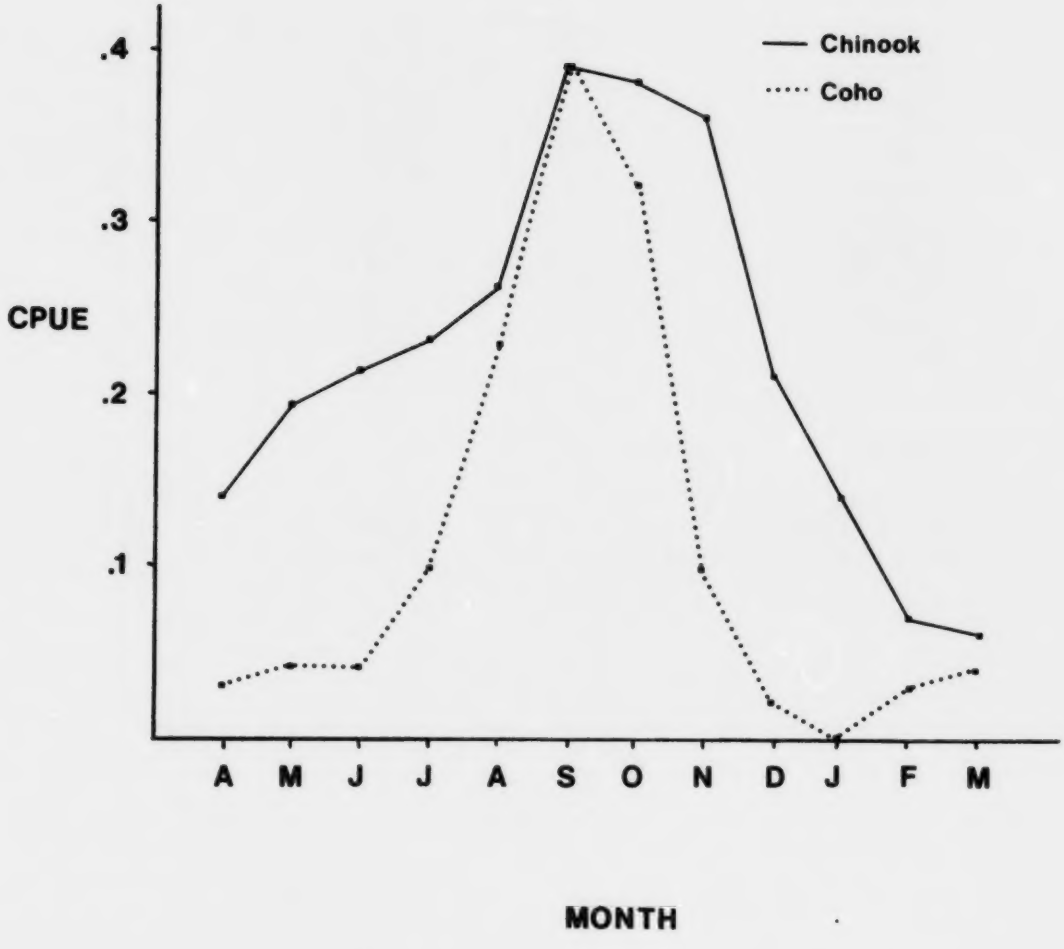
TABLE 14

1984/85 TIDAL SPORTFISHING DIARY PROGRAM
CPUE OF SUBLEGAL SALMON BY MONTH AND REGION

	Chinook (<18")	Coho (<12")
Month		
April/84	0.14	0.03
May	0.19	0.04
June	0.21	0.04
July	0.23	0.10
August	0.26	0.23
September	0.39	0.39
October	0.38	0.32
November	0.36	0.10
December	0.21	0.02
January/85	0.14	0.00
February	0.07	0.03
March	0.06	0.04
Region		
North and Central Coast	0.21	0.03
South Coast and Fraser	0.26	0.17
West Coast Vancouver Island	0.14	0.02

FIGURE 6

1984/85 TIDAL SPORTFISHING DIARY PROGRAM
CPUE SUBLEGAL CHINOOK AND COHO BY MONTH



Other surveys (Cox 1977; Cumming 1979; Pelletier, Lacasse and Ducharme 1981; Thomson 1974) indicate that the average number of days fished by resident juvenile anglers is one-third to two-thirds the average number of days fished by their adult counterparts. Juvenile resident anglers fished an estimated 221,000 days in 1984/85 assuming that each juvenile resident angler fishes half as many days as an adult resident. Visiting juvenile anglers fished an estimated 129,000 days in 1984/85. This estimate is based on the assumption that visiting juveniles fish 75% the number of days fished by visiting adults.

The catch estimates obtained from the Diary Program and Visitors Survey are based on total party catch, including catch by juvenile anglers. Using the resultant catch rates from the surveys, resident juvenile anglers caught an estimated 60,000 chinook and 64,000 coho, while visiting juvenile anglers caught an estimated 22,000 chinook and 35,000 coho.

DISCUSSION

Survey Bias

Certain types of error are associated with any type of survey. One type of error is referred to as nonresponse and results from the failure to measure or contact the entire survey sample (Cochrane 1977). Biased measurements could be obtained if the characteristics of the measured group differ from the group that was not measured. Individuals that voluntarily return questionnaires as part of a mail survey are probably more interested in the questionnaire subject and could differ from those who don't return questionnaires. Tidal Diary questionnaire respondents could be more active and successful anglers than nonrespondents. Estimates of participation and fishing activity from this source alone would be biased upwards. This bias can be corrected by obtaining corresponding information from the nonrespondents. A sample of nonrespondents was surveyed by telephone in 1984.

The survey results indicate that 74% of the nonrespondents actually fished, compared to 89% of the respondents. A chi-square test indicated a difference in these participation rates at the .05 level of significance. The proportion of active anglers (participation rate) has differed for questionnaire respondents and nonrespondents for all program years with the exception of 1979 (Table 15). The sample size of the 1979 telephone survey may have been too small to discern any difference between the respondents and nonrespondents (MacGregor 1982).

The average days fished and catches of respondents and nonrespondents are provided in Table 16. Active 1984/85 diarists reported fishing more days and catching more fish in 1983 than all questionnaire respondents in general. Significant differences between the diarists and all questionnaire respondents for all effort periods and catches were indicated by t-tests at the .05 level of significance. The same tests indicated no significant differences between the catches from questionnaire respondents and nonrespondents. Questionnaire respondents fished more days during all effort periods which the exception of January to March. The differences were significant as indicated by t-tests at the .05 level of significance.

A comparison of the results of the questionnaire and nonrespondent telephone survey for all program years is presented in Table 17. The average results obtained from the telephone survey are generally lower than those obtained from the questionnaire. This tends to support the assumption that questionnaire nonrespondents tend to fish less and catch fewer salmon than respondents although these differences are not always statistically significant. Comparisons between the Visitors Survey respondents and nonrespondents have not been made because nonrespondent data for the Visitors Survey are not available. However, the survey has a high response rate (71% for 1984/85).

Another source of survey bias is referred to as recall bias and arises because individuals cannot always accurately recall details after time has

TABLE 15

TIDAL SPORTFISHING DIARY PROGRAM
PERCENTAGE OF ACTIVE ANGLERS

Program Year	Questionnaire	Nonrespondents
1984/85	88.9	74.2
1983/84[1]	90.5	72.6
1982[1]	89.6	76.8
1981	no nonresponse survey conducted	
1980[2]	32.1	10.9
1979[2]	17.8	18.0

1. The questionnaire sample was selected from licenced anglers. Active anglers are licence holders that fished.

2. The questionnaire sample was selected from the federal voters list. Active anglers are individuals that fished the previous year.

TABLE 16

1984/85 TIDAL SPORTFISHING DIARY PROGRAM
COMPARISON OF ANGLER ACTIVITY IN 1983

	Active 1984/85 Diarists	All Questionnaire Respondents	Nonrespondents
Average Days Fished:			
January to March - 1983	1.56	.88	1.4
April to June - 1983	5.94	3.84	3.25
July to September - 1983	12.22	8.22	6.04
October to December - 1983	2.17	1.19	.82
Total 1983	22.05	14.28	11.51
Average Catch of:			
Chinook	3.50	2.03	2.07
Coho	6.32	3.59	3.00
Other Salmon	2.02	1.37	1.21
Other Finfish	7.57	5.10	7.3

TABLE 17

QUESTIONNAIRE AND TELEPHONE SURVEY RESULTS

	Average Days Fished	Average Chinook Catch	Average Coho Catch	Average Salmon Catch	Month Conducted
1979:					
Questionnaire	12.32	-	-	8.63	-
Telephone Survey	10.59	-	-	7.53	March/1980
1980:					
Questionnaire	12.10*	-	-	11.51*	-
Telephone Survey	6.82*	-	-	5.41*	fall/1980
1982:					
Questionnaire	14.55*	2.80	3.52	-	-
Telephone Survey	8.45*	2.37	3.15	-	August/1980
1983:					
Questionnaire	13.82	1.63	3.13	-	-
Telephone Survey	12.80	1.75	2.80	-	March, July/1983
1984/85:					
Questionnaire	14.28*	2.03	3.59		
Telephone Survey	11.5*	2.07	3.00		April/1984

*=significant difference between means (α =.05).

passed. The result could be either under or overestimating, depending on the subject. The use of diary booklets eliminates recall bias during the program year to the extent that books are filled out as fishing occurs. The Visitors Survey, however, may be affected by recall bias because the survey is conducted after the end of the licence year.

The questionnaire and telephone survey data used to adjust the diary data could be susceptible to recall bias. Questionnaire recipients and individuals contacted during the telephone survey are asked to recall details of their fishing activity during the previous year. The telephone survey contacts are asked to recall back over a longer time period since the telephone survey is conducted at least 3 months after the initial questionnaire sendout. This time difference could be responsible for the differences between questionnaire and telephone survey data.

Paired questionnaire and telephone survey responses were obtained from some individuals from the 1983 and 1984/85 programs. These responses were compared using paired t-tests. The questionnaire was sent out in January for both years. Since the 1983 telephone survey was conducted closer to the period being recalled (March as opposed to the end of April for 1984), it would be expected that fewer differences would be observed for the 1983 program if time were a factor (Table 18). However, the opposite was observed. More differences were observed for the 1983 program than for the 1984/85 program. It is possible that the 1984/85 sample size was too small relative to the standard deviation to permit the detection of any more significant differences. No conclusions regarding survey time and the effect of recall bias can be made based on the available data.

TABLE 18

PAIRED QUESTIONNAIRE AND TELEPHONE SURVEY RESPONSES

	1983		1984	
	Average Questionnaire Response	Average Telephone Survey Response	Average Questionnaire Response	Average Telephone Survey Response
Catch:				
Chinook	3.52	2.93	1.96	2.16
Coho	5.48	5.09	4.44	4.92
Other Salmon	.67	.33	.92	.72
Other Finfish	3.93	3.48	3.36*	7.04*
Days Fished:				
January - March	.62	.81	.64	1.27
April - June	6.83*	2.85*	4.55	3.00
July - September	11.73*	8.58*	10.77*	9.32*
October - December	.44	.35	1.00	2.00
Total Days	19.31*	12.58*	16.95	15.59

*=significant difference between means (α =.05)

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APPENDIX A

SPECIES LISTS

TABLE A-1

Common and Scientific Names of Finfish Recorded by Tidal Diarists

Common Name	Scientific Name
Chinook salmon	*Oncorhynchus tschawytscha*
Coho salmon	*Oncorhynchus kisutch*
Pink salmon	*Oncorhynchus gorbuscha*
Sockeye salmon	*Oncorhynchus nerka*
Chum salmon	*Oncorhynchus keta*
Lingcod	*Ophiodon elongatus*
Pacific cod	*Gadus macrocephalus*
Rockfish	*Sebastes* spp.
Pacific halibut	*Hippoglossus stenolepis*
Trout	*Salmo* spp.
Flatfish	Pleuronectidae

APPENDIX A

SPECIES LISTS

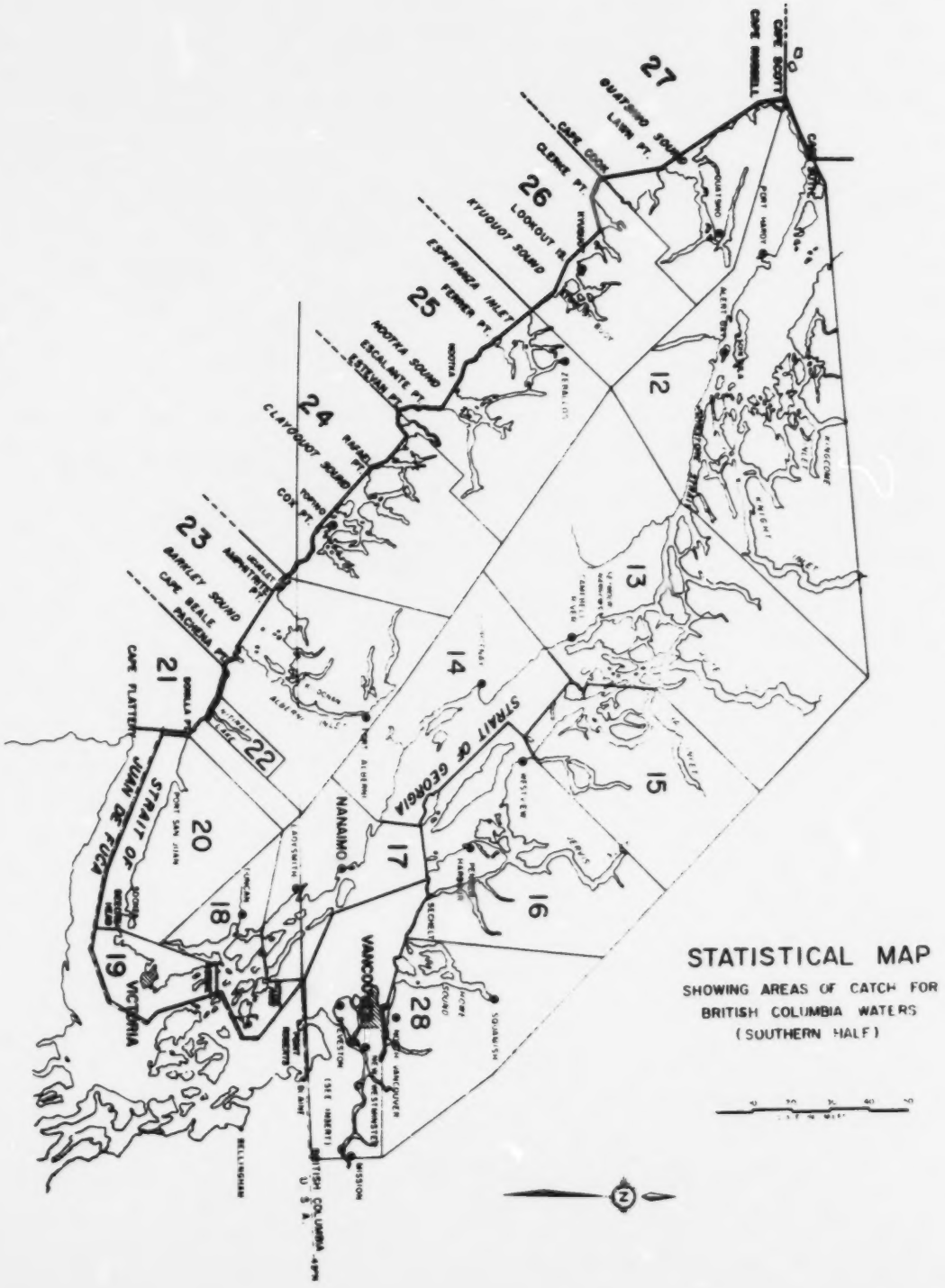
TABLE A-2

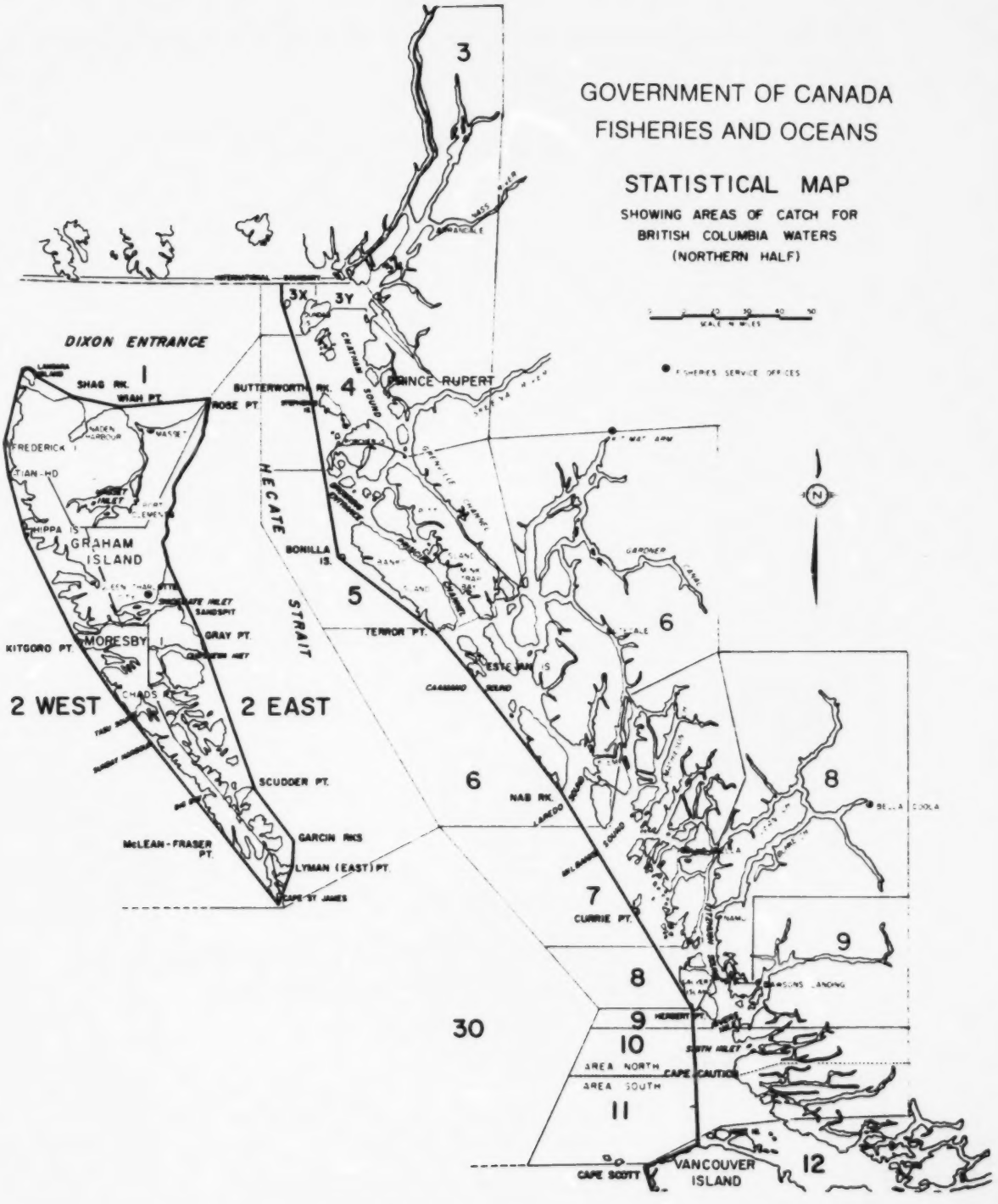
Common and Scientific Names of Shellfish Recorded by Tidal Diarists

Common Name	Scientific Name
Crab	*Cancer* spp.
Shrimp, Prawns	*Pandalus* spp.
Clams	Pectenidae, Solenidae, Veneridae
Mussels	*Mytilus* spp, *Modiolus rectus*
Abalone	*Haliotis kamschatkana*
Oysters	Ostreidae

APPENDIX B

STATISTICAL AREA MAPS




GOVERNMENT OF CANADA
FISHERIES AND OCEANS
STATISTICAL MAP
SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(NORTHERN HALF)
DIXON ENTRANCE
HECATE STRAIT
GRAHAM ISLAND
MORESBY I.
PRINCE RUPERT
VANCOUVER ISLAND
2 WEST
2 EAST
3
3X
3Y
4
5
6
7
8
9
10
11
12
30
AREA NORTH
AREA SOUTH
SHAG RK.
WAH PT.
ROSE PT.
BUTTERWORTH RK.
BONILLA IS.
TERROR PT.
KITGORO PT.
GRAY PT.
SCUDDER PT.
GARCIN RKS
McLEAN-FRASER PT.
LYMAN (EAST) PT.
CAPE ST. JAMES
NAB RK.
CURRIE PT.
CAPE CAUTION
CAPE SCOTT
FISHERIES SERVICE OFFICES

APPENDIX C

SAMPLE FORMS

1.

TIDAL DIARY QUESTIONNAIRE

(to be filled out by the person named in the address)

1. Please indicate the number of people in your household not including yourself who sportfished in B.C. tidal waters in 1983. If none, enter "0".

   a) 16 and Over _____ b) Under 16 _____

2. Did you personally fish in B.C. tidal waters in 1983? YES ☐ NO ☐

   (If you did not fish in 1983, please proceed to Question 6.)

3. Please indicate the number of days you fished each month. A "day" means all or any part of a day. Enter "0" in the months when you did not fish.

Jan. _____	Apr. _____	July _____	Oct. _____
Feb. _____	May _____	Aug. _____	Nov. _____
Mar. _____	June _____	Sept. _____	Dec. _____

4. On an average fishing day, how many hours did you fish? _____

5. How many of each of the following did you personally catch in B.C. tidal waters in 1983?
   Do not include released fish as part of the catch. If none, please enter "0".

   a) Chinook Salmon _____ c) Other Salmon _____
   b) Coho Salmon _____ d) Other Fin fish _____
   e) Shellfish _____

6. Would you be willing to keep a record of your 1984 fishing activity for us in diary books that we will provide?

   YES ☐ NO ☐

Business Reply Mail
No Postage Stamp Necessary if mailed in Canada

Postage will be paid by

Canada Post Postes Canada 5112

TIDAL SPORTFISHING DIARY PROGRAM
Department Of Fisheries And Oceans
1090 West Pender Street
Vancouver, B.C.
V6E 9Z9

2. Tidal Sportfishing Diary-Finfish Form (a)

Please read instructions on preceding page before filling out diary.

Please record crab and other shellfish on forms at back of book.

FINFISH

BOAT

These columns must be filled each time you go fishing

DATE	FISHING FROM: BOAT, SHORE, PIER, BAR OR DIVING	NO. PEOPLE FISHING	LINES IN WATER	HOURS FISHING	TARGET SPECIES (chinook, any fish, cod, etc)	AREA (see map)	CHINOOK					COHO		
							Under 18" Caught & released	18" - 26" Caught	18" - 26" Kept	Over 26" Caught	Over 26" Kept	Under 12" Caught & released	Over 12" Caught	Over 12" Kept
Aug 12	Boat	2	3	6½	any salmon	17	2	1	1	0	0			

RECORD ALL DAYS FISHING EVEN IF YOU CAUGHT NOTHING

Tidal Sportfishing Diary-Finfish Form (b)

RECORDS

OR PARTY CATCH

PINK SALMON		OTHER SALMON (Specify type)		LINGCOD		PACIFIC COD		ROCKFISH (Red Snapper)		HALIBUT		TROUT		FLATFISH		OTHER FISH		
Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Type of Fish
		sockeye 1	1			1	0									5	5	herring

Questions? Phone (604) 666-6501 collect

Tidal Sportfishing Diary-Shellfish Form

SHELLFISH RECORDS

These columns must be filled each time you go fishing.

BOAT OR PARTY CATCH

DATE	NO. OF PEOPLE	AREA (see map)	FISHING METHOD (trap, net, digging, hand, scuba)	CRAB					OTHER SHELLFISH					
				NO. OF TRAPS	SOAK TIME	CATCH		TYPE OF CRAB	SHRIMP, PRAWNS	CLAMS & MUSSELS		OYSTERS	OTHER	
						Caught	Kept		weight unshucked	number	type	number	number	type
June 6	2	12	trap	1	12	6	4	dungeness	2 lbs	60	littleneck	12	3	scallops

Visitors Sportfishing Survey - Page 1.

Government of Canada / Gouvernement du Canada
Fisheries and Oceans / Pêches et Océans

Visitor Sportfishing Survey

Canada

1. How many visits to British Columbia have you made in this licence year (April 1984-March 1985) which included fishing in B.C. Tidal waters?

_____ visit(s)

2. For each visit, please indicate:

   - the number of people in your party
   - the number of B.C. Tidal waters licence holders in your party
   - the number of people fishing in your party aged 15 or under
   - the total number of days spent in B.C. for each visit.

	People in party	Tidal waters Licence holders in party	Anglers aged 15 or under in party	Days spent in B.C.
Visit 1				
Visit 2				
Visit 3				
Visit 4				
Visit 5				

Visitors Sportfishing Survey - Page 2.

- 2 -

3. What was your main reason for coming to British Columbia? (Please check one only)

☐ Visiting friends and relatives ☐ General vacation

☐ Fishing ☐ Other _____

☐ Business _____

4. Please indicate how your decision to come to B.C. was affected by the availability of Tidal Waters sportfishing (please check one only)

If there were no Tidal sportfishing available in B.C.:

☐ I would still have visited B.C. and substituted other activities.

☐ I would still have visited but would not have stayed as long (I would have stayed _____ days less).

☐ I would not have come at all.

5. Please rank the importance of each of the following factors in your choice of a place to go fishing by placing the appropriate number in the box with 1 being the most important.

☐ natural or scenic beauty of the area
☐ accompanying friends
☐ catching any fish
☐ catching limit of fish
☐ getting away from crowds
☐ other (specify) _____

6. If you could catch any species of fish available in B.C., which would you prefer?

☐ chinook (king, spring)	☐ halibut	☐ crab
☐ coho	☐ lingcod	☐ clams
☐ any salmon	☐ rockfish	☐ other _____

Visitors Sportfishing Survey - Page 3.

- 3 -

7. Please fill in the following table, even if you and your party caught no fish. Instructions for filling out the table are given below.

MONTH	AREA	DAYS	NO. OF PEOPLE	CHINOOK	COHO	OTHER SALMON	OTHER FISH		SHELLFISH	
							number	type	number	type
August	13	4	3	6	3	1	2	lingcod		
August	14	3	3	0	0	0			3	crab

Month: Record the month(s) you personally fished in B.C. Tidal waters in the 1984/85 licence year (April 1984 through March 1985).

Area: Refer to the enclosed map of Fisheries statistical areas (opposite page), locate the area where you were fishing, and record the corresponding area number. If you fished in more than one area in the month, use a separate line for each area fished, and record the appropriate information for those areas on separate lines.

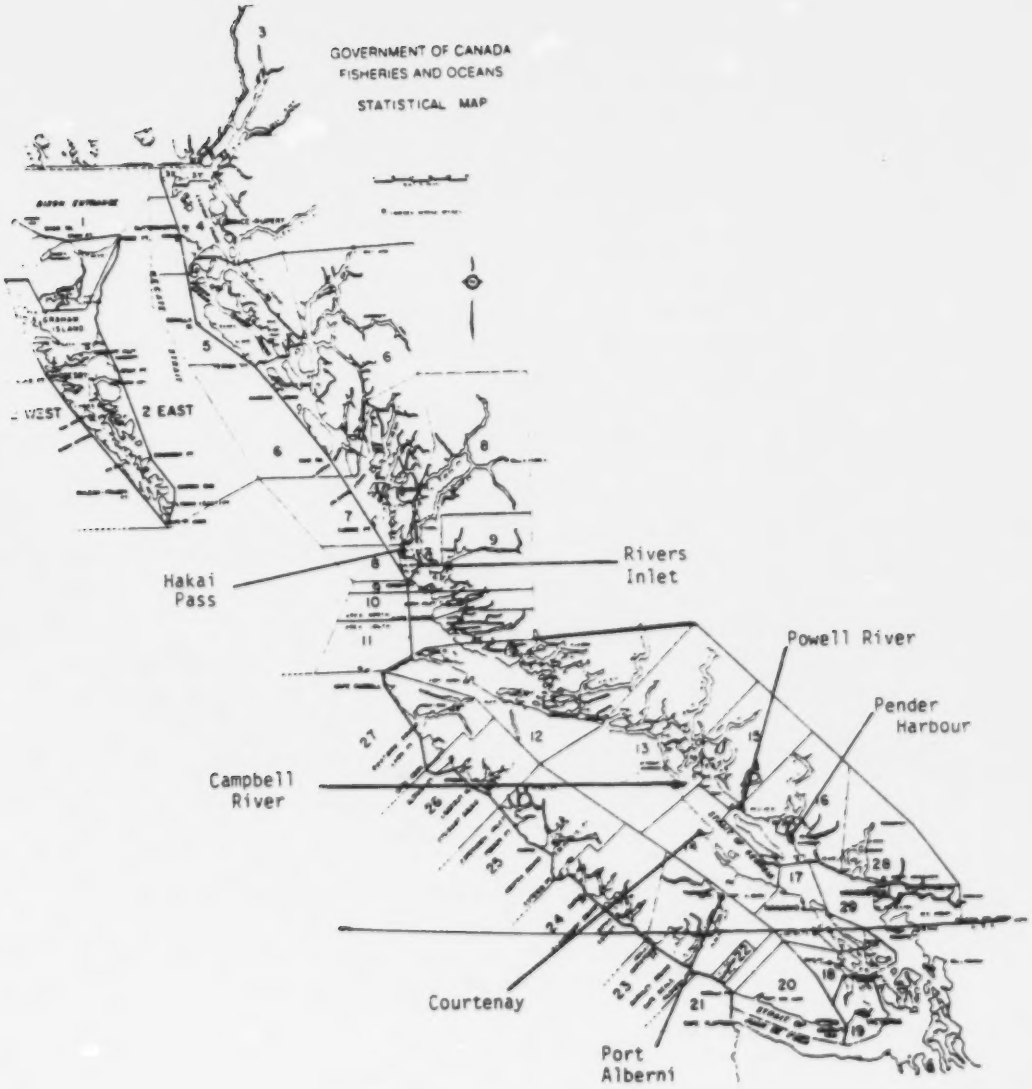
Days Fished: Record the days you personally fished in each area in each month, **including the days where nothing was caught.**

Number of People Fishing: Record the number of people, including yourself, who actually fished.

Catch: In the appropriate column, record the total number of fish caught by the fishing party (do not include fish that were released).

Visitors Sportfishing Survey - Page 4.

- 4 -



Visitors Sportfishing Survey - Page 5.

- 5 -

7. Did you purchase any "package" sportfishing trips, tours or outings to fish in B.C. Tidal waters in 1984/85 (for example, fly-in fishing camps or charter services where the price included transportation, lodging, food, tackle, bait, etc.)?

☐ yes ☐ no

If yes, what was the total price (Cdn $'s) of the package? $_____

8. Excluding package trips, please estimate below the amount of money (in Canadian dollars) your party spent in B.C. on trips that included sportfishing in the 1984/85 licence year (April 1984-Mar. 1985):

1. Lodging (hotel, motel, cottage rental, etc.) $_____

2. Trailer Park (campground fees) $_____

3. Food - restaurant meals & snacks $_____
   - groceries $_____
   - alcoholic beverages $_____

4. Travel Costs within B.C. - car $_____
   - air $_____
   - ferry $_____
   - other $_____

5. Boat Rentals $_____

6. Fishing Supplies (tackle, rod, lures, etc.) $_____

7. Bait $_____

8. Household owned boat cost - gas $_____
   - repairs $_____
   - moorage $_____
   - other $_____

9. Guide or Charter services (not included in question 9 on package trips) $_____

10. Fish processing (canning, smoking, etc.) $_____

11. Other (Specify) $_____

Visitors Sportfishing Survey - Page 6.

- 6 -

9. How did you originally find out about Tidal sportfishing in B.C.?

☐ travel agent
☐ friends or relatives
☐ magazine advertising
☐ local advertising while visiting B.C.
☐ other _____

10. How many trips did you make to B.C. in the previous (1983/84) licence year that included Tidal water sport fishing?

_____ trip(s)

11. Are you intending to fish in British Columbia Tidal waters again before the end of the current licence year (March 31, 1984)?

☐ Yes ☐ No

12. Did you also purchase a B.C. provincial freshwater fishing licence during 1983?

☐ Yes ☐ No

13. Please feel free to comment on your fishing experience in B.C. Tidal waters and indicate how it could have been improved.